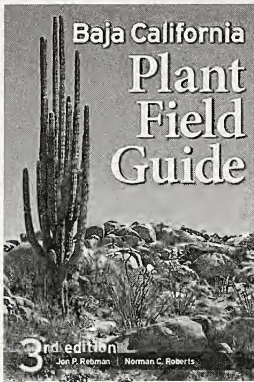


REVIEW



Baja California Plant Field Guide, 3rd Edition. By JON P. REBMAN, AND NORMAN C. ROBERTS. 2012. San Diego Natural History Museum and Sunbelt Publications, San Diego, CA. 452 pp. ISBN 9780916251185. Price \$34.95 (paperback)

shrubs, this edition also includes many annual and perennial herbs, something that was lacking in previous editions. The organization follows previous editions and is a relatively standard format for plant identification guides with an introduction followed by entries describing groups and individual species of plants.

The introduction has been entirely rewritten and greatly expanded. I highly recommend reading it from start to finish as it provides a wonderful overview of the natural history of Baja California as it pertains to its flora and individual plant species. Various experts contributed to writing the new introduction, including Exequiel Ezcurra, Thomas A. Demere, Pedro P. Garcillan, and Charlotte Gonzales-Abraham. The introduction is accompanied by photographs, satellite images, and maps which add considerably to the discussion. The first ten pages are devoted to the climate of Baja California, followed by 11 pages explaining the geology of the peninsula, and 13 pages discussing the phytogeography (vegetation) of the peninsula. Thirteen ecoregions are discussed including the California Mountains region (Sierra Juarez and Sierra San Pedro Martir), Pacific Islands, Central Desert, Central Gulf Coast, La Giganta Ranges, Viscaïno Desert, Magdalena Plains, and two Cape ecoregions. Each of the ecoregion accounts includes a representative photograph, and a description that includes the general location, climate, and list of representative species. The Spanish name counterparts are also provided for each ecoregion. Jon Rebman penned a section discussing plant endemism on the peninsula, which could be as high as 30 percent. Rebman highlights the cacti as an example, which is not only one of the most significant elements of the peninsula but includes 93 endemic taxa (a 72 percent rate of endemism!). The introduction is rounded out with a discussion on non-native plants and conservation.

The rest of the book is devoted to plant field guide and species accounts. The entries are organized starting with primitive forms (a brief two page entry for nonvascular plants, lichens, and bryophytes) and flows toward more advanced forms. The family arrangement is the same as in the second edition of the Jepson Manual (Baldwin et al. 2012) with a few exceptions. Amaranthaceae and Chenopodiaceae are united while *Lotus* L. has not been split. These differences are more likely due to timing than to author intent.

Over 700 different plant taxa in 111 plant families are treated in this section. The photographs alone are well worth the price of the book.

Even the casual traveler to Baja California, México cannot ignore its flora. From the window of a car passing down the main highway the eyes are greeted with boojums and magnificent cacti, led by towering cardons, bearded old man's cacti, and candelabra cacti. There are also agaves, elephant trees, and stately tree yuccas all dressing a dramatic landscape comprised of granite boulders, volcanic ridges, and sediment covered plains, often with the ocean glistening in the background. For someone trained in botany it is a magical land. Half of the wonder lies in the varied and interesting flowers that can only be found on foot and away from the vehicle.

Few people know the flora of the Baja California Peninsula like the authors of the new edition of a *Baja California Plant Field Guide*. Norman Roberts, who sadly did not live to see the edition reach print, wandered the peninsula for nearly six decades. Jon Rebman, the curator of the San Diego Natural History Museum Herbarium, is an intense student of the peninsular flora and seems to spend as much time on the south side of the border as the north. His energy and enthusiasm has given us a wealth of knowledge about Baja California plants since he came to the San Diego Natural History Museum in the mid 1990's.

The *Baja California Plant Field Guide* in one edition or another has been available since 1975 (Coyle and Roberts 1975; Roberts 1989). These books have been constant companions of mine on my travels along the peninsula. Less complex and technical than Ira Wiggins' *Flora of Baja California* (1980), this field guide has rendered the flora of the peninsula accessible to a wide array of travelers from the lay to the professional.

This latest edition of the *Baja California Plant Field Guide* is much expanded, at a hefty 452 pages. It is the best of the three editions. In addition to commonly encountered trees and

Thumbing through the high quality photographs shows us many unfamiliar and interesting plants that are unlike anything we see in California. Most are beautiful shots and often highlight characters that are useful for identification. This makes for a considerably larger book than previous editions, which might be a little less convenient in the field but well worth the extra weight.

Most groups are represented by the more common species or those taxa travelers are most likely to encounter. Each entry is titled by Latin name, synonym if relevant, English name, and Spanish name. A brief description of the plant is provided along with its distribution on the peninsula. In many cases, especially if only one or two taxa in a genus have accounts, a summary of the total number of species in the genus occurring in Baja California is provided. I always appreciate these summaries. If a plant in the field does not appear to match the photos and descriptions, it is nice to know there are more taxa to consider. Other interesting facts are often included, such as plant use.

The ferns and their relatives make up a relatively short section, primarily represented by members of the Brake family (Pteridaceae). However, ferns as a group are less likely to be encountered by travelers. Most of the gymnosperm taxa (18 of 23), which are primarily pines and cypresses of the northern mountains, are provided with entries.

The first flowering plant group is the Magnoliidae-Piperales clade. This group only includes only a few plants, such as pipevine (Aristolochiaceae) and lizard-tail (Saururaceae). Next follow the Monocots and then the Eudicots. The Agave family (Agavaceae) garners the most attention of the Monocots, with 13 accounts. All four members of *Nolina* Michx. are covered (though I would like to have seen a photograph of *Nolina palmeri* S. Wats. with flowers or fruit). The grasses are weakly covered, with only six accounts, but there are other resources for Baja California grasses such as Gould and Moran's *The Grasses of Baja California* (1981), although out of print.

The Eudicot accounts are the heart of the book with over 300 pages devoted to over 600 taxa. My immediate reaction was to check out the oaks (Fagaceae), which seem well represented. I was interested to see species I am not familiar with such as *Quercus albocincta* Trel. and *Q. brandegeei* Goldman from Baja California Sur. There are plenty of sunflowers (28 pages, Asteraceae) and legumes (34 pages, Fabaceae). The authors have paid special attention to the

cacti (Cactaceae), devoting over 40 pages to this significant and diverse group. Some of the real gems are groups or genera that Californians are less familiar with. Baja California has a much greater diversity of spurges (Euphorbiaceae) than one would find in California and the book reflects this. Only a single species of elephant tree (Burseraceae) occurs in California. This guide provides accounts for six species.

Overall, the editing was well done, and the photographs are of high quality. While I have not read every entry, I did not see many significant errors or omissions. There are a few. *Koerberlinia spinosa* Zucc., for example, is stated as being found in the United States in Arizona and Texas without mention of California where it is known from the lower desert. I would like to have seen some groups covered a little more thoroughly (e.g., grasses, dudleyas), and as an artist, I do miss some of the line drawings of the older editions. One plate in the last edition illustrated the leaves of most of the elephant tree species (*Bursera* Jacq. ex L. and *Pachycormus* Coville ex Standl.), which I found useful. The illustration is absent in this edition. I certainly appreciate the challenge this book presented the authors who clearly had to make some sacrifices to keep the book manageable in terms of size. I highly recommend this book for anyone with even a casual interest in Baja California. If you are planning a trip and interested in plants, it is a must have tool. Even if you can't travel to Baja California, with this book in hand you can almost believe that you have been magically transported there.

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